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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,451	10/31/2000	Kersti Strandqvist	P15484US00	8608
466	7590	07/26/2004	EXAMINER	
YOUNG & THOMPSON 745 SOUTH 23RD STREET 2ND FLOOR ARLINGTON, VA 22202			ANDERSON, CATHARINE L	
			ART UNIT	PAPER NUMBER
			3761	

DATE MAILED: 07/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/699,451

Applicant(s)

STRANDQVIST, KERSTI

Examiner

C. Lynne Anderson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17, 19, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Assarsson et al. (3,901,236) in view of Smith (5,328,939).

With respect to claims 13 and 14, Assarsson discloses all aspects of the claimed invention but remains silent as to the method of crosslinking the superabsorbent material. Assarsson discloses an absorbent structure in an absorbent article, the absorbent article being a diaper, incontinence guard, and a sanitary napkin, as described in column 1, lines 7-9, and column 7, lines 64-66. The structure comprises a porous material comprising fibers and a superabsorbent material, as disclosed in column 1, lines 9-11. The structure contains at least 50% superabsorbent material, as disclosed in column 5, lines 22-24. The superabsorbent material is in the form of particles, as shown in figure 7, and may be crosslinked by covalent or ionic bonds, as disclosed in column 3, lines 37-40. Suitable polymers for the superabsorbent material are disclosed in column 3, line 41 to column 4, line 12, and includes poly(vinylpyridine).

Smith discloses a method of forming a superabsorbent material for use as an absorbent, as disclosed in column 2, lines 54. The superabsorbent material is

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produced by initially ionically crosslinking a polymer, such as poly(vinylpyridine), as disclosed in column 3, lines 6-10). The polymer is crosslinked with an ionic crosslinking agent comprising a polyvalent metal ion, as disclosed in column 4, lines 19. The superabsorbent material is then covalently crosslinked, as disclosed in column 4, lines 59-63. The method disclosed by Smith results in a superabsorbent material that provide improved strength and are highly stable, as described in column 2, lines 49-51.

It would therefore be obvious to one of ordinary skill in the art at the time of invention to produce the superabsorbent material of Assarsson by the method taught by Smith to provide the absorbent structure with improved strength and stability.

With respect to claim 15, the superabsorbent is poly(vinylpyridine), which is a polymer with an anionic functional group.

With respect to claim 16, the superabsorbent material disclosed by Assarsson in column 3, line 46, is polyacrylic acid, which has functional carboxy groups and the same structure as polyacrylate.

With respect to claim 17, the covalent crosslinking agents disclosed by Smith in column 4, line 63 to column 5, line 36, have cations which will bond to anionic functional groups.

With respect to claim 19, the polyvalent metal ion is aluminum or zinc, as disclosed by Smith in column 4, line 19.

With respect to claim 21, the superabsorbent material comprises crosslinking along its surface, and is therefore surface crosslinked.

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With respect to claim 22, the superabsorbent material is homogenously mixed with the ionic crosslinking agent, and therefore is substantially homogeneously crosslined, as disclosed by Smith in column 7, lines 36-43.

With respect to claim 23, the structure contains 75% by weight of superabsorbent material, as disclosed by Assarsson in column 5, lines 22-23.

With respect to claim 24, diapers, sanitary napkins, and incontinence devices are well-known to comprise a liquid pervious topsheet, a liquid pervious backsheet, and an absorbent structure located therebetween.

Claims 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Assarsson et al. (3,901,236) in view of Smith (5,328,939) as applied to claim 15 above, and further in view of Hutchins et al. (5,957,203).

Assarsson, as modified by Smith, discloses all aspects of the claimed invention with the exception of the cationic crosslinking agent being aluminate ion.

Hutchins discloses in column 3, lines 39-45, the use of aluminate ion, which comprises the polyvalent metal ion aluminum, as a cationic crosslinking agent. The crosslinking agent disclosed by Hutchins provides the crosslinked polymer with improved gel qualities, as described in column 1, line 33 to column 2, line 15.

It would therefore be obvious to one of ordinary skill in the art at the time of invention to use aluminate ion as the cationic crosslinking agent, as taught by Hutchins, in the method of forming an absorbent structure disclosed by Smith.

Response to Arguments

Applicant's arguments filed 7 April 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a high distribution capacity at repeated wettings) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's argument that the teachings of Smith are not applicable to the invention of Assarsson because Smith discloses a rigid, gas-absorbing material and makes no mention of "superabsorbent materials," it is noted that Smith discloses in column 2, line 67 through column 3, line 11, a "hydrogel polymer" that absorbs water. Hydrogel polymers are well known in the art to be in the category of superabsorbent materials. Further, Smith discloses the use of the same polymers as Assarsson, but teaches that ionically crosslinking the polymers prior to covalently crosslinking the polymers results in improved stability of the absorbent material. Therefore, the modification of Assarsson in view of Smith is proper.

In response to applicant's argument that the teachings of Hutchins are not applicable to the invention of Assarsson as modified by Smith, it is noted that Smith discloses in column 6, lines 24-27, subjecting the crosslinked polymer to

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high heats. Therefore, the crosslinking agent must be able to withstand high heats, and the teaching of Hutchins is relevant.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Lynne Anderson whose telephone number is (703) 306-5716. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Calvert can be reached on (703) 305-1025. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MA

cla

July 19, 2004


JOHN S. CALVERT
SUPERVISORY PATENT EXAMINER
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